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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,651	01/26/2004	Ramin Shahidi	Shahidi-001B	8813

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EXAMINER	
JAWORSKI, FRANCIS J	

ART UNIT	PAPER NUMBER
3737	

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/764,651	SHAHIDI, RAMIN	
	Examiner	Art Unit	
	Jaworski Francis J.	3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *6/8/4 Abstract*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 January 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 4 is objected to because of the following informalities: There is a non-sequitur in line 1 immediately prior to "seen", meaning that the language " is that " should apparently be inserted there. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 – 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The base claim 1 terminology "optionally" is vague since it is unclear whether or not the claimed method must embrace a protocol admitting of referencing a view field to orientation.

Additionally it is unclear whether the 'view field' bears any relationship to the image capture and mode recitation.

[For a practical example, Sati et al (US6725082) is directed to registering a real-time intraoperative device (17) and anatomic marks created by mark producer 16 integral with endoscope 11 to a three-dimensional(x-ray) imaging modality displayed on 3 with

superposed (non-imaging A-mode) ultrasound, however 12 is also a registry display associated with one of the imaging components. Since the view-field terminology in the claim is 'floating' the artisan would be confused, all other features being equal for argument's sake, how or if the view field is related to the imaging.]

In dependent claims 2 – 4 the terminology " the display device " lacks antecedence since there is no positive recitation of displaying with a display device. That is, projection onto a view field may also pertain to a view assemblage within a graphics processor prior to displaying of the result hence the dependent claim terminology is indefinite.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 – 4 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 2 - 5 of copending Application No. 10/764,650. Although the conflicting claims are not identical, they are not patentably distinct from each other because whereas base claim 1 in the aforementioned application differs from the claiming here in the capture of an 'intra-operative image' as opposed to an ultrasound image, claim 2 of the conflicting application thereafter claims the ultrasound mode and claims 3 – 5 track this application's claims 2 – 4. .

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Steins et al (US6733458) which teaches amethod for guiding a biopsy device to a target site within a patient and including capturing a real—time three-dimensional ultrasound image of the patient through scan converter 112, referencing the patient target site and the needle instrument trajectory via position/orientation calculator 126 soas to produce via the graphics processor 116a view field selectable to provide optimal visualization (col. 10 upper half) of the axis of the actual and intended trajectories of the biopsy

needle instrument with respect to the marked patient target site (variously 210, 610,618, 1106 etc.).

Claims 1 – 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Shahidi (US6167296, at bar).

Shahidi is directed to a method for guiding a medical instrument in the main involving capturing a pre-operative image of ultrasound or other modality and registering an endoscope therewith, including view field projections along that instrument per dependent claims therein. Shahidi further teachesin the alternative that the instrument in turn may include an ultrasound imager which provides the ultrasound image capture data for the positional registry and co-registry of anatomic target (segmented and color-highlighted) and instrument trajectory representations, see col. 7 lines 37 - 65, including projected view directions along the endoscopic instrument, see dependent claims therein.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> **(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.**

Claims 2 – 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steins et al as characterized against claim 1, further in view of Sati et al (US6725082). Whereas the former is silent as to a video or visual display, it would have been obvious in view of the latter to directly visualize an instrument tip with respect to anatomic target

landmarks since Saiti et al suggest that the three-dimensional display and video field view may be integrated into one, see col. 6 lines 4 – 16.

Claims 1 – 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kessman et al (US6379302) in view of Lee et al (US6764449), alone or further in view of Shahidi '296. The former is directed to a laparoscopic endoscope tool overlay method onto ultrasound imager with instrument and anatomic landmark co-registry but falls short arguably in suggesting anatomic target highlighting during production of the referenced view field , since the segmentation process, periodic markers 715 or targeting circle (col. 8 lines 32 –49), or co-registration markers 912, 914, 916 may be argued to fall short of 'representing the spatial feature of a target', however it would have been obvious in view of Lee et al to conjointly display both the instrument trajectory and an extracted 'target object' (e.g. extracted by VOCAL as explained therein) in order to improve the free-hand aiming which mates the instrument trajectory to the final approach destination. Since Kessman et al is directed to production of (video laparoscopic) projection views, see Fig. 11 methodology as exemplary, it would have been further obvious in view of Shahidi to create a view field refewrenced to or along the endoscopic instrument.

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 571-272-4738.

FJJ:fjj

12-7-05

Francis J. Jaworski
Primary Examiner